

FACT SHEET

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NEPA CALL-IN

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Pollution Prevention: Requirements, Practices and Guidance on NEPA Implementation

Introduction

Often referred to as "P2," pollution prevention is defined as practices that reduce the amount and/or toxicity of pollutants in wastestreams or emissions to the environment. If less hazardous or toxic pollutants are produced, then there will be less hazardous and toxic wastes which require disposal or that are emitted to the environment. A key principle of pollution prevention is that it is cheaper and easier to prevent pollution than it is to capture, store, transport, and neutralize or dispose of it through traditional "end-of-pipe" pollution control equipment.

Many strategies have been developed and used to reduce pollution and protect resources. Pollution prevention includes, but is not limited to, reducing or eliminating hazardous or other polluting inputs; modifying manufacturing, maintenance, or other industrial practices; modifying product designs; recycling (especially in-process, closed-loop recycling); preventing the disposal and transfer of pollution from one environmental media to another; and increasing energy efficiency and conservation.

The General Services Administration (GSA) operates facilities which use, store and dispose of a variety of hazardous materials including fuels, solvents, lubricants, pesticides, paints, paint thinners, and batteries. Some products we don't think of as being hazardous contain small amounts of hazardous substances that must be disposed of properly. For example, florescent light tubes and high intensity discharge (HID) lamps contain small amounts of mercury, and some fluorescent lamp ballasts may contain polychlorinated biphenyls (PCBs). Mercury and PCBs can be hazardous to people and the environment if not managed properly. To achieve the goals of pollution prevention, the HID lamps and ballasts should be recycled until an acceptable substitute is found. In addition, used office paper and debris from building remodeling may be nonhazardous but can be a problem due to their volume. Use of building materials that contain recovered or recycled material, and "Green Building" design practices are also examples of P2.

What Are the Requirements for Pollution Prevention?

Pollution Prevention is the preferred environmental management technique throughout the Federal government. Several Federal laws and Executive Orders promote pollution prevention, such as:

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- The Pollution Prevention Act of 1990;
- Executive Order 12856, *Federal Compliance with Right-to-Know Laws and Pollution Prevention Requirements* (August 3, 1993);
- Executive Order 12873, *Federal Acquisition, Recycling, and Waste Prevention* (October 20, 1993);
- Executive Order 12902, *Energy Efficiency and Water Conservation* (March 8, 1994); and
- Executive Order 12898, *Federal Actions to Address Environmental Justice* (February 11, 1994), which encourages Federal facilities to use pollution prevention to reduce environmental impacts and achieve environmental justice.

The Resource Conservation and Recovery Act also requires hazardous waste generators to report to EPA on the efforts undertaken to reduce the volume and toxicity of waste generated and to report the actual changes in the volume and toxicity of waste achieved during the year in comparison to previous years (see Title 40 Code of Federal Regulations (CFR) 262.41).

The Pollution Prevention Act of 1990 (PPA) declared the following national policy:

- Pollution should be prevented or reduced at the source whenever feasible.

- Pollution that cannot be prevented should be recycled in an environmentally safe manner whenever feasible.
- Pollution that cannot be prevented or recycled should be treated in an environmentally safe manner whenever feasible.
- Disposal or other release into the environment should be employed only as a last resort and should be conducted in an environmentally safe manner.

Converting Policy Into Action

To initiate a facility-wide pollution prevention program, an agency needs to first develop a multimedia pollution prevention plan that defines specific goals, actions to accomplish those goals, and a schedule for these actions. The U.S. Environmental Protection Agency (EPA) has developed a strategy and recommended steps to develop a facility-wide pollution prevention plan tailored to the needs and environmental concerns of each facility. The following is an overview of the seven steps commonly followed to develop a facility P2 plan and program.

1. **Develop Goals.** The goals will identify specific reductions and accomplishments for the facility. Examples include reducing unnecessary purchases of toxic and hazardous materials, reducing disposal of hazardous chemicals and generation of solid wastes, and reducing consumption of energy and water.
2. **Obtain Management Commitment.** When upper and middle management is committed to pollution prevention, the development and implementation of the program proceeds more smoothly.
3. **Establish a Pollution Prevention Team.** A pollution prevention program requires the support of all facility staff, with specialized expertise for certain activities. The team should include an oversight group, one or more technical groups to develop baseline data and conduct opportunity assessments, and a group to publicize the program and develop employee incentives.
4. **Develop an Environmental Baseline.** The baseline is a comprehensive picture of the materials usage patterns and environmental impacts associated with their use for each waste generating operation. It includes information on quantity and cost of material purchases, storage and distribution, and waste disposal volumes, methods and costs.
5. **Conduct Pollution Prevention Opportunity Assessments (PPOA).** Using the baseline data, areas with greatest P2 potential can be identified. The PPOA consists of detailed analyses of the process being evaluated, the process requirements, and options for pollution prevention. For example, a cleaning and degreasing operation requires analysis of the materials being cleaned and identification and testing of nonhazardous cleaning products which meet the operation's performance requirements (see Figure 1).
6. **Develop Criteria and Rank Activities/ Opportunities.** This step involves prioritizing the P2 activities the P2 team will implement, based on the facility's goals, relative environmental impacts, ease of implementation, and available resources.
7. **Conduct a Management Review.** This step is an important opportunity for upper and middle management to reaffirm its support for the P2 program.

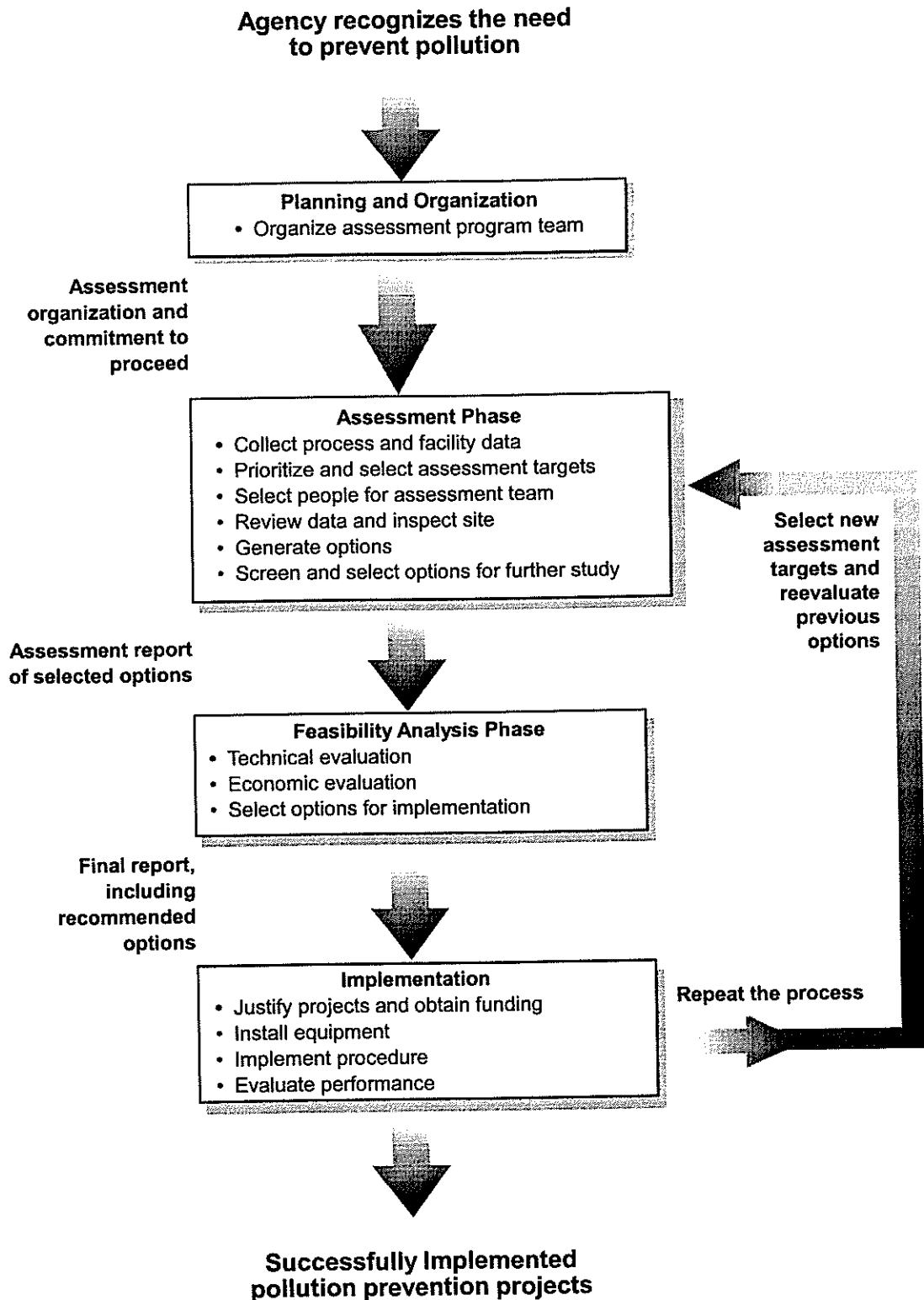
Examples of successful P2 activities are:

- replacing chlorinated solvents with nonhazardous cleaners or aqueous parts washers,
- replacing oil-based paints and thinners with water-based paints or use of nonhazardous paint stripping technologies,
- replacing traditional photo developing with digital photographic operations,
- recycling and use of recycled products,
- "green housekeeping" program to minimize the impact of cleaning agents on indoor air quality, and
- use of energy efficient lighting and office equipment.

Pollution Prevention and NEPA

Through the National Environmental Policy Act (NEPA), GSA is required to evaluate all actions for their potential to affect the human environment. Simultaneously, Executive Order (EO) 12856 requires all Federal agencies, including GSA, to comply with the PPA and to reduce the release and off-site transfer of hazardous substances. In January 1993, the President's Council on Environmental Quality (CEQ) published a Federal Register Notice (58 FR 6478) which provided "guidance to federal agencies on incorporating pollution prevention principles, techniques, and mechanisms into their planning and decisionmaking processes and evaluating and reporting those efforts in documents prepared pursuant to the National Environmental Policy Act." The CEQ guidance states: "CEQ is not seeking to limit agency discretion in choosing a particular course of action, but rather is providing direction on the incorporation of pollution prevention considerations into agency planning and decisionmaking."

Figure 1. Procedures for Conducting Pollution Prevention Opportunity Assessments



What Is GSA's Responsibility for Integrating P2 Into NEPA?

The CEQ notes the purchasing power of the Federal government and challenges agencies to "lead the nation's efforts to prevent pollution before it is created." The Federal government "designs, constructs, and operates its own facilities; owns and manages millions of acres of public lands; and has a substantial role as a purchaser and consumer of commercial goods and services—all of these activities provide tremendous opportunities for pollution prevention which the federal agencies should grasp to the fullest extent practicable..."

The CEQ suggests Federal agencies should include pollution prevention considerations in the early planning and decisionmaking processes for their actions and should document those considerations in the Environmental Assessment (EA) or Environmental Impact Statement (EIS) prepared for those actions. The text box on page 5, "Incorporating Pollution Prevention into NEPA Documents," presents CEQ ideas on how to integrate P2 into the NEPA process.

Implementing P2 into NEPA documents requires that the proponent of the action discuss the consideration of P2 in the description of the proposed action. For example, if the proposed action will result in any generation of hazardous waste, solid waste, wastewater, or air emissions, then the proponent should discuss how P2 considerations have been included in the design of the project, propose mitigation measures, and strive to identify an alternative that includes a lower volume of waste or emissions generated.

Integrating P2 Into CATEX Assessments

Actions that normally do not require the preparation of an EA or an EIS are called Categorical Exclusions (CATEX). To qualify as a CATEX, the proposed action must demonstrate no significant impacts on the environment. GSA uses two types of CATEX's, the "Automatic" CATEX and the "Checklist" CATEX. The Checklist CATEX requires completion of eleven questions to ensure no extraordinary circumstances exist. Although the CATEX was not specifically addressed in the CEQ guidance, when considering the proposed project or action, GSA should incorporate P2 principles by considering energy and resource inputs, the generation and handling of wastes, and how the proposed action could be designed to reduce energy and resource consumption and waste generation.

Integrating P2 Into Environmental Assessments

If the proposal does not meet the CATEX criteria an EA or EIS is required. EAs are shorter than an EIS and identify potential environmental impacts to determine if an EIS is necessary. The EA should define the purpose and need for the action, contain a description of the proposed action and alternatives, identify the environmental impacts of the proposed action and alternatives, and evaluate the significance of the impacts.

- Like a Checklist CATEX analysis, EAs should clearly identify every wastestream or emission that will be produced as the result of the action, and for each, should specify how the project was designed in order to reduce the volume of the wastestream or emission.
- The proposed projects or actions should clearly incorporate P2 principles.
- The EAs for new buildings should discuss the incorporation of Green Building design elements, address the generation of air particulates during construction, and address the wastes that would be produced by the facilities after they begin to operate.
- Building demolition projects should discuss segregation of demolition debris to facilitate recycling.
- The Finding of No Significant Impact (FONSI) prepared as a result of the EA should describe how P2 considerations were included in the design of the proposed action and/or in the NEPA evaluation process.

Integrating P2 Into Environmental Impact Statements

If the proposed action could have a significant effect on the human environment, an EIS must be prepared. An EIS includes a detailed analysis of the environmental impacts of a proposed action and its alternatives. For example:

- The description of the proposed action should include a description of any hazardous or solid wastes, wastewater, or air emissions that will be generated as a result of the proposed action.
- The description of the proposed action should include a description of any P2 measures incorporated into the design of the proposed action.
- If the proposed action will result in the generation of any waste or emissions, the description of the environmental consequences of the action should include an assessment of consequences of the generation of waste or emissions.

Incorporating P2 Into NEPA Documents

NEPA and the CEQ regulations establish a mechanism for building environmental considerations into federal decisionmaking. Specifically, the regulations require federal agencies to "integrate the NEPA process with other planning at the earliest possible time to insure that planning and decisions reflect environmental values, to avoid delays later in the process, and to head off potential conflicts" [40 CFR § 1501.2]. This mechanism can be used to incorporate pollution prevention in the early planning stages of a proposal.

In addition, prior to preparation of an EIS, the federal agency proposing the action is required to conduct a scoping process during which the public and other federal agencies are able to participate in discussions concerning the scope of issues to be addressed in the EIS [40 CFR § 1501.7]. Including pollution prevention as an issue in the scoping process would encourage those outside the federal agency to provide insights into pollution prevention technologies which might be available for use in connection with the proposal or its possible alternatives.

Pollution prevention should also be an important component of mitigation of the adverse impacts of a federal action. To the extent practicable, pollution prevention considerations should be included in the proposed action and in the reasonable alternatives to the proposal, and should be addressed in the environmental consequences section of the EIS [40 CFR §§ 1502.14(f), 1502.16(h), and 1508.20].

Finally, when an agency reaches a decision on an action for which an EIS was completed, a public record of decision must be prepared which provides information on the alternatives considered and the factors weighed in the decisionmaking process. Specifically, the agency must state whether all practicable means to avoid or minimize environmental harm were adopted, and if not, why they were not. A monitoring and enforcement program must be adopted if appropriate for mitigation [40 CFR § 1505.2(c)]. These requirements for the record of decision and for monitoring and enforcement could be an effective means to inform the public of the extent to which pollution prevention is included in a decision and to outline how pollution prevention measures will be implemented.

A discussion of pollution prevention may also be appropriate in an EA. While an EA is designed to be a brief discussion of the environmental impacts of a particular proposal, the preparer could also include suitable pollution prevention techniques as a means to lessen any adverse impacts identified [40 CFR § 1508.9]. Pollution prevention measures which contribute to an agency's finding of no significant impact must be carried out by the agency or made part of a permit or funding determination.

— *Federal Register Notice 58 FR 6478*
January 12, 1993

- If the proposed action will result in the generation of any waste or emissions, the description of alternative actions to be considered should either include an alternative which would generate less waste or emissions, or a statement describing why alternatives which generate less waste or emissions are not feasible.
- If the proposed action will result in the generation of any waste or emissions, the description of mitigation measures should include, at a minimum, a statement that all wastes and emissions will be managed and/or disposed of according to environmental regulations. Mitigation measures which reduce the volume of the waste or emissions, increase recycling of the waste or emissions, or propose controls to prevent the release of waste or emissions are strongly encouraged.
- The Record of Decision (ROD) should describe how P2 considerations were included in the design of the proposed action and/or in the NEPA evaluation process.

For More Information

EPA and other Federal agencies have developed a considerable amount of information on developing P2 plans and on and P2 opportunity assessments. Additional information on P2 resources is available from NEPA Call-In at 202-208-6228.

References

Facility Pollution Prevention Guide, U.S. Environmental Protection Agency, Office of Research and Development, EPA/600/R-92-088, May 1992.

Federal Facility Pollution Prevention Planning Guide, U.S. Environmental Protection Agency, Office of Enforcement and Compliance Assurance, EPA-300-B-94-013, December 1994.

Pollution Prevention Act of 1990, 42 U.S.C. 13101.

"Pollution Prevention and the National Environmental Policy Act," Council on Environmental Quality, 58 Federal Register 6478, January 12, 1993.

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